

REMARKS

Claims 1-5 were originally pending in the application. Claims 1, 4, and 5 are rejected. Claims 2 and 3 are objected to. Claims 1 and 3 have been amended. Claims 2, 4, and 5 have been cancelled. New claims 6-16 have been added. Claims 1, 3, and 6-16 are now pending in the Application. Favorable reconsideration and allowance of this application is respectfully requested in light of the claim amendments and the following remarks.

I. Abstract

The Abstract was objected to for failing to comply with MPEP 608.01(b). Applicant has replaced the abstract as-filed with a conforming Abstract. Withdrawal of the objection to the Abstract is therefore respectfully requested.

II. Title

Applicant has amended the title to “Motor Control Equipment” to be the same title that appears on the Oath and Declaration.

III. Claim Rejections Under 35 USC 112

Claims 4 and 5 are rejected under 35 USC 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 4 and 5 have been cancelled, thereby obviating the rejection.

IV. Claim Rejections Under 35 U.S.C. §102

Claims 1, 4, and 5 are rejected under 35 USC 102(b) as being anticipated by Kishibe. Kishibe discloses a system that requires a detector that directly detects a magnetic pole position of the rotor using like Hall Effect Sensors which are usually built into a rotor position sensor. Kishibe uses only the signals from a position sensor (A, A-, B, B-, Z, Z-, CS1, CS1-, CS2, CS-, CS3, and CS3-) to detect magnetic pole position abnormality. Kishibe requires the signals CS1, CS1-, CS2, CS-, CS3, and CS3- from the position sensor, which are the signals to directly detect a magnetic pole position of the rotor using Hall Effect Sensors.

The present invention, as recited in claim 1, does not require the apparatus of Kishibe. Furthermore, as noted in the Office Action, the subject matter of original claim 2 is neither taught nor suggested by Kishibe. Specifically, Kishibe fails to teach or suggest determining that the feed back detector is abnormal when the absolute value of a difference between the magnetic pole position and the estimated magnetic pole position is larger than a predetermined value. Claim 1 has been amended to include this limitation and, accordingly,

Kishibe fails to teach or suggest each and every element in claim 1. It should be noted that claim 1 has been broadened in other respects by way of the present Amendment, however Applicant does not believe the broadening of claim 1 to affect its patentability over the prior art.

Withdrawal of the rejection of claim 1 under 35 USC 102(b) is therefore respectfully requested. Claims 4 and 5 have been cancelled, thereby obviating the rejection of those claims under 35 USC 102(b).

V. Allowable Subject Matter

Applicant notes with appreciation that claims 2 and 3 were deemed to contain allowable subject matter. As noted above, claim 2 has been cancelled, and the subject matter of claim 2 incorporated into pending claim 1. Claim 3 has been amended to depend from claim 1. Applicant asserts the patentability of claim 1 as providing sufficient basis for the allowability of dependent claim 3. Formal allowance of claim 3 is therefore respectfully requested.

VI. New Claims

Applicant has added new claims 6-10 that ultimately depend from independent claim 1. Applicant cites the patentability of claim 1 as providing sufficient basis for the allowability of dependent claims 6-10. Formal allowance of claims 6-10 is therefore respectfully requested.

Applicant has further added new independent claim 11, and corresponding dependent claims 12-16. Claim 11 recites a method corresponding generally to independent apparatus claim 1. Specifically, claim 11 recites the step of (F) determining that the feed back detector is abnormal when an absolute value of the difference between the detected magnetic pole position and the estimated magnetic pole position is larger than a predetermined value. As noted above with respect to claim 1, this step is not taught or suggested by the cited prior art. Accordingly, Applicant asserts that claim 11 is allowable over the cited prior art. Applicant cites the patentability of claim 11 as providing sufficient basis for the allowability of dependent claims 12-16. Formal allowance of claims 11-16 is therefore respectfully requested.

VII. Conclusion

Applicant therefore respectfully asserts that all rejections and objections cited by the Examiner have been overcome. Accordingly, the application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

Applicant hereby authorizes the Commissioner to charge the \$120 fee for a one-month extension of time, along with any additional fees that are deemed due arising from this or any other communication, to deposit account No. 17-0055. The Examiner is invited to contact the undersigned at the telephone number appearing below if such would advance the prosecution of this application.

Respectfully submitted,

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